FISCAL YEAR 2017

OHIO STATE CLEAN DIESEL GRANT PROGRAM

WORK PLAN AND BUDGET NARRATIVE

SUMMARY PAGE

Project Title: Ohio State Clean Diesel Grant Program

Project Manager and Contact Information

[redacted]

Project Budget Overview:

	FY 2017
EPA Base Allocation	$ 270,411
State or Territory Matching Funds (if applicable) VW Mitigation Trust Fund – DERA Option	$1,098,533
EPA Match Incentive (if applicable)	$ 135,205
Mandatory Cost-Share: school district 75% $63,852 plus towing company 60% of engine components $2,224,297	$2,288,149
TOTAL Project	**$3,792,298**
Additional Leveraged Resources:	$0

Project Period

October 1, 2017 – September 30, 2018

Summary Statement

Ohio EPA proposes to use federal State Clean Diesel grant program dollars to reduce diesel emissions by paying 25% of the cost to replace one eligible model year 2001 school bus with a new clean diesel bus in the DERA priority county of Lake. The prospective subawardee school district has confirmed its ability to provide the 75% local match.

Ohio EPA also proposes to pay 40% of the engine component costs cost to replace eight 1899-1931 era (Tier 0) single engine tug boats operating in Ohio ports along Lake Erie with four new Tier III twin engine tug boats with GenSets, using a combination of the remaining DERA state clean diesel allocation and Volkswagen Mitigation Trust Fund dollars once Ohio's mitigation plan is approved. The tug boats are based and operating primarily in Ohio's DERA priority counties of Ashtabula, Cuyahoga, and Lucas. We are requesting a waiver from US EPA to cover a portion of the engine component costs of replacement vessels because of the unique two-for-one nature of this project, which has the potential to achieve more than 35 tons of annual emission reductions. The figures in the project overview above include 40% of the estimated total of $926,790.40 for the engine components and installation labor costs per tug boat, times four new tug boats. The entire new vessel cost is estimated at $3.6 million per tug boat. We are working with the towing company to develop more complete fleet data to write into Ohio's mitigation plan for the Volkswagen Mitigation Trust Fund.

Ohio EPA will use the Diesel Emissions Quantifier (DEQ) tool to estimate the pollution reductions to be achieved based on the specific equipment proposed by the two subgrantees.

Past DERA State Clean Diesel Program expenditures for school bus retrofits and replacements in Ohio are posted at http://epa.ohio.gov/Portals/42/documents/Bus/FedFundSum.pdf .

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SCOPE OF WORK

This section is a discussion of the state's or territory's plan to develop and implement grant, rebate, and/or loan programs and how these programs meet state or territory goals as they relate to the reduction of diesel emissions.

The scope of work should contain a detailed project description, including the following categories and information.

STATE/TERRITORY GOALS AND PRIORITIES: *A description of the air quality within the state or territory, the quantity of air pollution produced by the diesel fleet in the state or territory, and the primary sectors (e.g. highway, marine vessels, construction equipment) that make up the state's or territory's diesel fleet (both public and private).*

Based upon the 2014 National Emissions Inventory, the diesel fleet in Ohio contributes 7,268 tons of PM2.5 emissions annually, of which 1,245 tons originate in the counties targeted for federal funds (Ashtabula, Cuyahoga, Lake, Lorain and Lucas Counties). Statewide, non-road diesel equipment accounts for 2,962 tons, on-road diesel heavy duty vehicles account for 3,043 tons, on-road diesel light duty vehicles account for 119 tons, commercial marine vessels account

for 41 tons, locomotives account for 1,103 tons, and aircraft account for 245 tons. With respect to the targeted counties, non-road diesel equipment accounts for 439 tons, on-road diesel heavy duty vehicles account for 574 tons, on-road diesel light duty vehicles account for 19 tons, commercial marine vessels account for 30 tons, locomotives account for 183 tons, and aircraft account for 31 tons. Please note this does not include emissions from point sources (operations at individual facilities) and marine vessels, locomotives and aircraft are for all types of fuels although it is expected that the majority of those are diesel.

While the PM2.5 air quality in Ohio continues to improve from historical levels, areas of Ohio continue to struggle in meeting health-based air quality standards as USEPA continues to lower those standards. Currently Ohio is not meeting the PM2.5 annual standard in Cuyahoga and Lorain Counties. PM2.5 levels tend to be highest in the urban and industrialized areas of Columbus, Cincinnati, and Cleveland, along with the counties surrounding those areas.

Based upon the 2014 National Emissions Inventory, the commercial marine fleet in Ohio contributes 1,566 tons of NOx emissions annually, of which 1,130 tons originate in the counties targeted for federal funds (Ashtabula, Cuyahoga, Lake, Lorain and Lucas Counties).

While the ozone air quality in Ohio continues to improve from historical levels, areas of Ohio continue to struggle in meeting health-based air quality standards as US EPA continues to lower those standards. NOx emissions contribute to the formation of ozone. Currently Ohio is meeting the 2008 ozone annual standard in Cuyahoga and Lorain Counties; however, these counties are not meeting the 2015 ozone standard. These designations are not final yet and are expected by October 1, 2017. Ozone levels tend to be highest in the urban and industrialized areas of Columbus, Cincinnati, and Cleveland, along with the counties surrounding those areas.

In 2005, Ohio EPA Director Joe Koncelik received approval from the Ohio General Assembly to create the Ohio Clean Diesel School Bus Fund, earmarking a portion of state civil penalties to protect young children, the population segment most vulnerable to adverse health effects from the harmful pollutants in diesel exhaust. According to US EPA, 24 million American children ride a school bus every day, and spend an average of 90 minutes each weekday in a school bus. According to the Ohio Department of Education, 1.3 million children in Ohio ride school buses.

That decision to focus our efforts on children riding school buses has been reaffirmed by three subsequent Ohio EPA directors and recognized with 2008 Leadership Awards from the Midwest Clean Diesel Initiative to both Joe Koncelik and Ohio EPA. Over the past decade, Ohio EPA has directed $5.85 million in state funds, augmented with $4.05 million in DERA and ARRA state clean diesel allocation funds, to cleaning up aging diesel school buses. To date, we have awarded more than $9.2 million in 216 grants to school districts and county developmental disability programs and one commercial provider of school bus services to Ohio school districts, to:

- retrofit emission controls such as diesel particulate filters, diesel oxidation catalysts, and closed crankcase filters onto 2,625 school buses;
- install direct-fired heaters onto 1,037 school buses to reduce engine idling and fuel consumption; and

- pay a portion of the engine component costs to replace 44 aging diesel buses with new clean diesel buses.

Ohio EPA used the Diesel Emissions Quantifier to estimate that these efforts have resulted in annual reductions of more than 117 tons of pollutants (PM 2.5, carbon monoxide, NOx and hydrocarbons). These benefits will continue to accrue as long as these school buses remain in service.

Ohio EPA has also encouraged Ohio entities to take advantage of other funding opportunities to reduce diesel emissions, such as US EPA's DERA competitive grants, the Federal Transit Administration, the US Department of Energy's Clean Cities program and alternative fuel incentives, and occasional Supplemental Environmental Projects in enforcement cases.

In 2009-2010, Ohio EPA assisted the Ohio Department of Transportation and the Ohio Department of Development in estimating emissions benefits for Ohio clean diesel project applications funded through the Federal Highway Administration's Congestion Mitigation and Air Quality (CMAQ) program. In 2011, the Ohio General Assembly assigned Ohio EPA direct responsibility to administer Ohio's Diesel Emission Reduction Grant (DERG) program in partnership with ODOT. These CMAQ-funded grants are available to public sector fleets and private sector fleets applying through a public-private partnership, and to diesel fleets in all transportation sectors. In the four DERG grant cycles Ohio EPA has administered between 2012-2017, 89 projects were funded for more than $47 million, resulting in an estimated annual emission reduction of more than 1,787 tons of air pollutants (fine particulates and nitrogen oxides). Specifically, these last four cycles of DERG grants have been awarded to:

- replace 139 school buses with clean diesel, 37 with propane and 4 with CNG;
- install direct fired heaters for idle reduction onto 115 school buses;
- repower 3 locomotives, retrofit 61 locomotives with electric layover heating systems and install 33 plug-in stations for idle reduction;
- repower 18 marine engines in 6 tug boats on the Ohio River;
- replace 150 diesel trucks with clean diesel, 196 with CNG and 6 with propane;
- install one CNG fueling station;
- install 154 electrified spaces at truck stops along interstate highways in Ohio, as well as 2 power stations/hybrid trailer hookups;
- replace 18 transit buses with clean diesel, 74 with CNG and 2 with zero emission hydrogen fuel cells;
- replace 5 diesel shuttle buses with propane;
- replace 11 diesel transit trolleys with clean diesel;
- replace one piece of road construction equipment; and
- replace the diesel engines in two airport snowblowers.

In the most recent October 2016 CMAQ DERG cycle, we were able to fully or partially fund only 12 of the 20 requested school bus replacement projects. Ohio EPA expects to release another Request for Proposals for an additional $10 million in CMAQ funding in the summer of 2017, if the Federal Highway Administration resumes issuing the required Buy America waivers

for these projects. In the meantime, Ohio EPA proposes to apply the new FFY17 DERA state clean diesel allocation funds to one of the applicants for school bus projects that we were unable to support with the CMAQ DERG funds.

Ohio EPA continues to propose directing DERA funds to school bus replacements because young children are the most vulnerable population to the harmful effects of diesel exhaust. However, school districts are understandably interested in applying to other funding sources with higher reimbursement rates (80% in CMAQ and up to 100% in VW) than the 25% available in DERA for school bus replacements. Other kinds of projects may also reduce overall emissions more cost effectively than school bus replacements. We are pleased to have the new VW Mitigation Trust Fund opportunity to reduce emissions from vessels and cargo handling equipment in Lake Erie ports that we have been unable to address with CMAQ funds. Ohio EPA proposes to write the DERA option into the state mitigation plan that will be submitted to the Trustee of the Volkswagen Mitigation Trust Fund. Our proposal will be to use approximately $1.1 million in VW Trust funds to provide a greater than 1:1 voluntary match for Ohio's DERA allocation in FY2017, to support the tugboat replacement project described below.

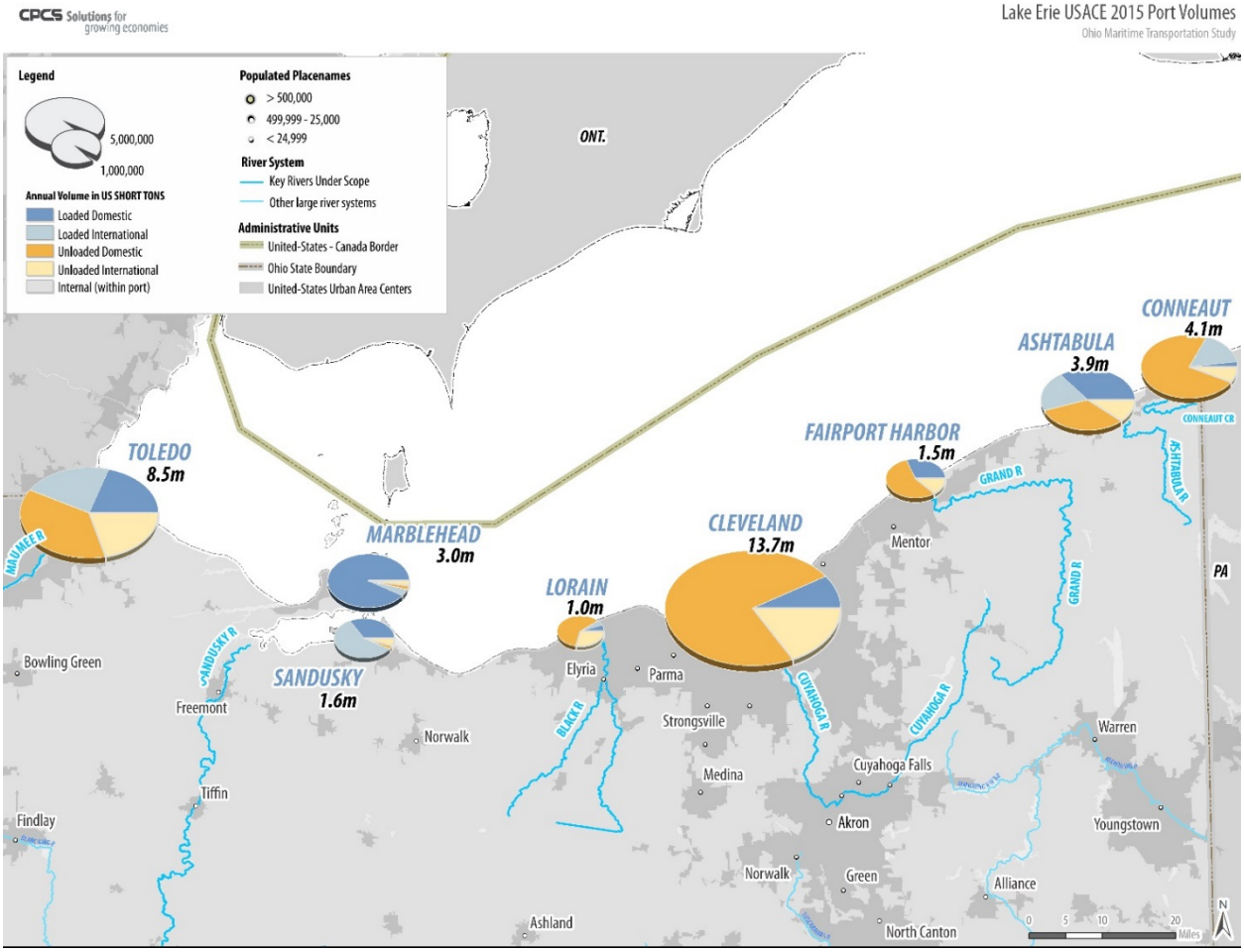
If all or part of the proposed tug boat replacement project does not move forward as expected, Ohio EPA will request a workplan modification to use the remaining DERA allocation to fund additional school bus replacements in DERA priority counties. The remaining funds would then be offered to some of the school districts that submitted applications for school bus replacement projects in DERA priority counties to Ohio EPA's CMAQ-funded Diesel Emission Reduction Grant (DERG) program in October, 2016 that were not funded in that grant cycle, or those that were awarded DERG school bus replacement grants that are currently on hold while the Federal Highway Administration is not releasing the required Buy America waivers. In that case, the VW Trust funds would be offered to provide only a 1:1 voluntary non-Federal match for Ohio's FY2017 DERA allocation.

VEHICLES AND TECHNOLOGIES: *A description of the eligibility, number, types and typical use, and ownership of vehicles, engines, and/or equipment targeted for emission reductions. Eligibility of vehicles is defined in Section VIII.B of the Program Guide. A description of all verified and/or certified technologies to be used or funded by the applicant. Eligibility of technologies is defined in Section VIII.C of the Program Guide.*

Ohio EPA proposes to use $21,284 to cover 25% of the $85,136 cost to replace one model year 2001 diesel school bus with a new model year 2018 clean diesel school bus for the Madison Local School District in Madison, Ohio (Lake County). The bus to be replaced is a Bluebird model TC class 7 with a Cummins 230 horsepower diesel engine that consumes 1179.6 gallons of fuel annually and travels an estimated 7,113 annual miles. Estimated annual operating hours are 1,074, based on idling an estimated 1.5 hours per day in use 179 days per year. The VIN number is 1BAAKCPA81F096676 and the engine ID is 45948756. In the October, 2016 application cycle for CMAQ-funded Diesel Emission Reduction Grants, Madison Local Schools originally applied to replace five model year 2001-2002 buses at an 80% reimbursement rate. This project was the highest ranking of eight school bus replacement projects that fell below the cutoff of available funds. Ohio EPA offered to use the FFY17 DERA state clean diesel

allocation to replace all five buses, but the school district does not feel able to provide the higher 75% local match requirement for more than one bus at this time. The school district provided a vendor quote and certificate of conformity for the new diesel bus as part of their application, which was used as the basis for the project cost estimate. If this workplan is approved, the school district will use a competitive procurement process to select the eventual vendor, and Ohio EPA will ensure that the new bus selected is DERA eligible.

Ohio EPA proposes to use $384,332 of the remaining FFY17 DERA state allocation, matched with $1,098,533 from Ohio's portion of the Volkswagen Mitigation Trust Fund, to replace eight single-engine tug boats dating back to 1899-1931, each with a single, tier 0 diesel propulsion engine and an auxiliary generator. The last rebuilds on the engines in these vessels were completed around 1970. The tugboats are based and operate primarily in Ohio's Lake Erie harbors of Toledo (Lucas County), Cleveland (Cuyahoga County), Ashtabula and Conneaut (both Ashtabula County), and may operate very occasionally in Fairport Harbor (Lake County) and Lorain (Lorain County).



Source: Ohio Maritime Study – Working Paper 1 – Ohio's Maritime Transportation System, prepared by CPCS Transcom Inc for the Ohio Department of Transportation, March 10, 2017, http://www.dot.state.oh.us/Divisions/Planning/SPR/StatewidePlanning/Documents/Ohio%20Maritime%20Study%20-%20WP%201.pdf

The Great Lakes Towing Company proposes to replace these eight aging tugboats with four new twin-engine Damen tugs with MTU Series 4000 38 liter marine propulsion engines, model 8V4000M54R, rated at 1,000 BHP @ 1,600 RPMs, EPA Tier III emission rated; a John Deere 65kw marine generator set and a FlexaGen system, which is the added electric motor that would be engaged by the tug when not providing a ship assist service. The FlexaGen system allows the primary engines to be shut down during non-load operations, thereby further reducing emissions.

Over the past two years the engines on tugs stationed in Cleveland and Toledo have averaged the following:

Tug	Engine Hrs.	Gen 1 Hrs	Gen 2 Hrs	Fuel Usage
Two Year Average	622	243	218	16,384

The following files are attached:

- FlexaGen Functional DescriptionJana6-29.pdf, providing a detailed description of the FlexGen system
- The LoganMarine Integration Team 11 4 16 email.pdf, providing background on the system integration team and a summary of the system
- Logan FlexaGen.pdf, providing another summary of the FlexaGen system
- W.W. Williams Scope of Services & Equipment.pdf providing a detailed scope of work and specifications for the propulsion engines
- Verif-letter-foss.pdf, scanned verification letter from EPA verifying that the proposed use of the FlexaGen technology reduces emissions, based on an earlier pilot version of the system used on a tug retrofit.
- A preliminary estimate of potential emission reductions, generated by the Diesel Emission Quantifier tool with incomplete fleet data.

Ohio EPA has requested full fleet data on the engines, horsepower, displacement, current usage and idling of the eight existing vessels, and will forward the information as soon as it is received from the company that owns and operates the tugboats. In the meantime, a preliminary emissions estimate based on the company's incomplete fleet data showed that the project could achieve more than 35 tons of annual emission reductions, including more than 30 tons of NOx reductions. Reductions may be even more significant, based on the results of several tug boat engine replacement projects on the Ohio River that were funded with an Ohio DERG/CMAQ grant. A direct extrapolation is not appropriate because those projects deployed a different engine technology, and tug boat operations confined in a river harbor may not be a realistic indicator of tug boat operations moving between harbors in the open waters of Lake Erie.

The Great Lakes Towing Company plans to apply to the DERA national grant competition in July, 2017 to replace another twelve single-engine Tier 1 tugs operating in Chicago, Detroit and Duluth harbors with six new twin engine Tier III tugs. That grant application will be submitted

through a different project sponsor and is expected to request the same funding formula of 40% of the engine components and installation costs for the new tugs.

ROLES AND RESPONSIBILITIES: *A discussion of the roles and responsibilities of the state or territory and any other project partners, contractors, or subgrantees. State and territories should indicate whether their Program funds will support grant, rebate, and/or loans, and provide a detailed description of their disbursement methodology. This section of the work plan should also describe any additional leveraged resources beyond any voluntary matching funds or mandatory cost-share funds included in the project budget.*

Ohio EPA proposes to use these funds to provide two subaward grants. The first grant, to Madison Local Schools, will cover up to 25% of the cost of a single school bus replacement, from a replacement project application that was submitted to Ohio's CMAQ-funded Diesel Emission Reduction Grant (DERG) program in October, 2016. The DERG program application and guidelines are posted at http://epa.ohio.gov/oee/EnvironmentalEducation.aspx#131364252-diesel-emission-reduction-grants. Public school districts in Ohio are required under state law and their district purchasing policies to use competitive procurement processes for purchases of this size.

The second grant, to the Great Lakes Towing Company in Cleveland, Ohio, will reimburse the company for 40% of the engine component and installation costs to replace eight single engine Tier 0 tug boats operating in Ohio Lake Erie ports with four new Tier III tug boats with GenSets.

If this workplan is approved, Ohio EPA will offer a grant contract to the proposed subgrantees outlining their responsibilities consistent with the DERA funding requirements. Once this contract has been signed and executed by both parties, Ohio EPA will notify the subgrantee to initiate purchase of the replacement bus or tug boat. The proposed subgrantee is aware of and will be contractually obligated to fulfill a requirement to destroy the old school bus or tug boat engine within 90 days of placing the new bus or tug boat into service. The subgrantee will pay 100% of the cost of the new bus or tug boat, provide proof of payment for the new bus or tug boat, and submit an invoice to Ohio EPA for the approved allowable costs of the new school bus or tug boat.

Quarterly expenditure and activity reports will be required from subgrantees, and payments to subgrantees are strictly for reimbursement of eligible expenses based on Ohio EPA approval of submitted invoices. Ohio EPA may authorize modifications to the list of specific buses or tug boats proposed for replacement, and final grant amounts may change as projects progress. Subgrantees will be contractually required to keep receipts and financial records for five years after concluding the grant and make those records available for inspection when requested. The replacement school buses or tug boats be kept in service on Ohio routes or in Ohio ports for a minimum of five years. Subgrantees may not make changes to equipment or time lines without prior written approval from Ohio EPA. Staff from Ohio EPA's Office of Environmental Education (OEE) and/or Division of Air Pollution Control (DAPC) may conduct site visits to observe delivery of new buses or tug boats, destruction of old bus or tug boat engines, or audit financial records if necessary.

TIMELINE AND MILESTONES: *A detailed timeline for the project including milestones for specific tasks, such as subgrant or rebate program development, solicitation of project partners, making subawards, program/project implementation, procurement and installation of equipment, monitoring and oversight of projects, and reporting.*

Ohio EPA anticipates executing contracts with the proposed subgrantees within 90 days of notification of workplan approval and authorization to proceed.

School district subgrantees are expected to complete the competitive bid process within 90 days and order the new school buses for delivery within six-nine months. Destruction of the engines of the replaced buses must be completed within 90 days of delivery of the new buses. Whenever possible, Ohio EPA staff will travel to witness destruction of the old engines and verify that the new buses have been placed into service. Our goal is to have all new school buses in service by September 30, 2018 for the 2018-2019 school year, but some additional time may be needed if vendors cannot supply the new buses within six months, or for inspection by the Ohio State Highway Patrol before putting the new buses into service, if the new buses are not delivered in time for regularly scheduled summer 2018 OSHP inspections.

The selected subgrantee school districts are important partners committed to protecting the health of their students and drivers, and protecting the health of local residents by contributing to improved air quality in the local community. The Diesel Emission Reduction Grant program is administered through a partnership between the Ohio Department of Transportation and Ohio EPA's Division of Air Pollution Control and Office of Environmental Education, which jointly review applications for funding. DAPC provides technical assistance to applicants regarding selection of verified technologies and use of the Diesel Emissions Quantifier. OEE verifies applicants' fiscal information, administers grant contracts, reviews fiscal and activity reports and conducts as-needed site visits to verify project deliverables are being met. DAPC and OEE both work to publicize the program. Local Air Agencies, Metropolitan Planning Organizations, the Ohio Association for Pupil Transportation, environmental organizations and other participants in the Midwest Clean Diesel Initiative have been extremely helpful in publicizing the program to school districts, and assisting grant applicants.

A timeline of approximately three years is anticipated for the tugboat replacement project, with details and final emissions estimates to be submitted to US EPA for the DERA funding allocation, and to the VW Mitigation Trust Fund Trustee as part of Ohio's proposed mitigation plan. We propose to use the DERA state allocation funds on the first tug boat completed, and fund the remainder of the project with the VW match dollars that may be spent over a longer ten-year period.

DERA PROGRAMMATIC PRIORITIES: *A discussion of how, in providing grants, rebates, and loans under the Program, the state or territory will ensure that projects selected for funding supports the programmatic priorities as defined in Section VIII.D of the Program Guide.*

By using the federal grant funds to replace aging diesel school buses and tug boats with higher-tier, cleaner diesel or alternative fuel school buses and tug boats and by verifying that subgrantees have anti-idling policies in place, this proposal will maximize the public health

benefits of emission reductions for the most vulnerable element of the population, school-aged children, and for residents of large Lake Erie port cities like Cleveland and Toledo that have disproportionally suffered from diesel emissions, by reducing their exposure to particulate matter, carbon monoxide, nitrous oxides and hydrocarbons.

Both proposed projects are located DERA priority counties, i.e. those in nonattainment or maintenance of national ambient air quality standards for ozone and/or $PM_{2.5}$. The projects should result in improvement in air quality in the ports and in areas where buses queue to pick-up and drop-off students. The proposed projects were reviewed based on a formula that includes calculation of cost effectiveness in terms of the dollar cost per pound of $PM_{2.5}$ and NOx reductions that can be achieved, based on the type of engine, model year, miles traveled or hours of operation, and the emissions factors published in the US EPA- and CARB-verified technology lists.

EPA'S STRATEGIC PLAN LINKAGE AND ANTICIPATED OUTCOMES/OUTPUTS: *A description of the environmental outputs and outcomes to be achieved under the Program, as defined in Section VIII.E of the Program Guide. To estimate some of the anticipated outcomes of the award (e.g. emissions reductions), EPA encourages states and territories to use the Diesel Emissions Quantifier found at: www.epa.gov/cleandiesel/diesel-emissions-quantifier-deq.*

This proposal supports Goal 1 of EPA's 2014-2018 Strategic Plan, "Addressing Climate Change and Improving Air Quality." The proposed projects will reduce emissions from two diesel fleets, thereby reducing local and regional air pollution of criteria pollutants, air toxics and greenhouse gases.

The tugboat project component is also consistent with the findings and recommendations in EPA's *National Port Strategy Assessment: Reducing Air Pollution and Greenhouse Gases at U.S. Ports,* (EPA Office of Transportation Air Quality, EPA-420-S-16-002, September 2016, https://www.epa.gov/ports-initiative/national-port-strategy-assessment) to reduce port-related diesel emissions that impact public health and the climate.

Outputs: Ohio EPA will track the destruction of the engines of the replaced school buses and tug boats, and verify that new higher-tier diesel engines are placed into service. Ohio EPA will use the Diesel Emissions Quantifier tool to estimate the annual pounds or tons of fine particulate matter ($PM_{2.5}$) and nitrogen oxides reduced, and will calculate the project cost-effectiveness in dollars per pound of $PM_{2.5}$ emission reductions achieved. Specific emission reduction estimates for both projects will be revised in the final project report to reflect the equipment actually purchased.

Outcomes: Short term outcomes include direct reductions in emissions from the replacement of one school bus and eight old diesel tug boats with cleaner diesel engines. These actions will have immediate public health benefits for the children riding this school bus and the residents of the Ohio Lake Erie port communities. Another will be the increased public awareness of the benefits of the clean diesel program, as Ohio EPA and the subgrantees publicize their efforts.

Medium-term outcomes include the widespread adoption of cleaner technology by diesel fleets in Ohio, and documented emission reductions estimated by Ohio EPA using the Diesel Emissions Quantifier tool.

Long-term outcomes include improved air quality in some of the state's urban areas that have struggled to meet $PM_{2.5}$ and ozone standards for air quality. These actions will also contribute toward the ongoing Midwest Clean Diesel Initiative's goal of affecting 3.3 million diesel engines in the Midwest through voluntary actions. What is learned from these two diesel replacement projects is anticipated to help inform our efforts to reduce emissions from other targeted fleets, allowing continued expansion of Ohio's clean diesel initiatives.

SUSTAINABILITY OF THE PROGRAM: *A description of the state's or territory's plan for sustaining the project beyond the assistance agreement period. Additionally, describe the state's or territory's plan for publicizing and promoting the benefits of the activities within the state or territory.*

Ohio EPA is no longer funding school bus retrofits, and now uses DERA state allocation funds and the CMAQ-funded Diesel Emission Reduction Grant (DERG) Program to fund school bus replacements and other projects to reduce diesel emissions. Ohio EPA is seeking reauthorization of the DERG program through the 2018-2019 state biennium budget period that runs through June 30, 2019. Ohio EPA is currently preparing to request certification as a Beneficiary of the VW Mitigation Trust Fund, and beginning to draft a state mitigation plan to be submitted to the VW Trustee later in 2017. If approved, VW funds proposed here for the greater than 1:1 match should become available in late 2017 and must be spent within ten years.

Ohio EPA issues a news release to major media outlets statewide each grant cycle, announcing the recipients and grant amounts awarded, and amount of pollution reduction that is anticipated to result. The news release is also sent to the subgrantees' local media outlets. Ohio EPA will publicize the program through its Web pages http://www.epa.ohio.gov/oeef/schoolbus.aspx and http://epa.ohio.gov/oee/EnvironmentalEducation.aspx#131365122-vw-mitigation-grants, in public meetings planned for circulation of Ohio's draft VW State Mitigation Plan and the next CMAQ-funded DERG grant cycle; and in newsletter articles, presentations and exhibits at conferences of organizations such as Clean Fuels Ohio (Midwest Green Fleets), the Ohio Department of Transportation's Transportation Education Conference, the Ohio School Boards Association, Ohio Health Commissioners Association, Ohio Public Health Association, Ohio Pupil Transportation Association, Ohio Environmental Health Association, Science Education Council of Ohio, and Environmental Education Council of Ohio.

Ohio's clean diesel projects are also featured in Ohio EPA exhibits at large public events such as the Ohio State Fair and regional Earth Day celebrations, at the Mid-Ohio Regional Planning Commission's annual Clean Air Fair, at career day and environmental education programs for schools and workshops for teachers. Reminders of upcoming grant application deadlines are sent to a clean diesel program interested parties list with more than 3000 names, to school bus fleet managers through the e-mail newsletters and list-servs of the Ohio Pupil Transportation Association, Ohio School Boards Association and the Ohio Association of County Boards of

Developmental Disabilities. Ohio EPA is planning to submit an article to the Ohio Journal of Environmental Health on the accomplishments of the Ohio Clean Diesel School Bus program over the past ten years with combined state and federal funds, and efforts to address additional fleets such as transit buses, trucks, tug boats and switcher locomotives through the ongoing DERG program and the new VW Mitigation Trust Fund.

Subgrantees are encouraged to educate students, teachers, staff, parents, and local residents about their efforts to reduce emissions from their fleets. They are asked to include copies of news clippings and other documentation of their efforts in their reports to Ohio EPA.

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BUDGET NARRATIVE

This section of the work plan should include a detailed itemized budget proposal (in addition to the Standard Form 424A), using the example below. Justify the expenses for each of the categories being performed within the grant/project period. Indicate which costs will be paid by the state's or territory's allocation from EPA (which would include the bonus match, if applicable) and which costs will be paid by the state's or territory's voluntary matching funds, if applicable.

*Applicants must **itemize** costs related to personnel, fringe benefits, travel, equipment, supplies, contractual costs, other direct costs, indirect costs, and total costs. If the project budget includes any cost-share, mandatory or voluntary, the budget detail portion of the work plan must include a detailed description of how the applicant will obtain the cost-share and how the cost-share funding will be used.*

Mandatory cost-share funds must be in the form of cash contributions to the Equipment Category. If EPA accepts an offer for a voluntary cost-share, applicants must meet their sharing commitment in order to receive EPA funding. If the proposed cost-share is to be provided by a third-party, a letter of commitment is encouraged. Any form of cost-share included in the budget detail must also be included on the SF-424 and SF-424A.

Applicants should use the following instructions, budget category descriptions and example table to complete the budget detail section of the work plan. Detailed sample budgets representing various mandatory cost-share versus state voluntary match scenarios are available at: www.epa.gov/cleandiesel/clean-diesel-state-allocations.

Itemized Project Budget

FY 2017			
Budget Category	**EPA Allocation**	**Voluntary Match (if applicable)**	**Mandatory Cost-Share (if applicable)**
1. Personnel			
2. Fringe Benefits			
3. Travel			
4. Supplies			
5. Equipment			
6. Contractual			
7. Program Income			
8. Other			
Other: Subgrant to Madison Local School District for one school bus replacement, at $85,136	$21,284		$63,852
Other: Subgrant to Great Lakes Towing for 40% of engine components of four new tugboats, at $370,716 per tug	$384,332	$1,098,533	$2,224,297
9. Total Direct Charges	$405,616	$1,098,533	$2,288,149
10. Indirect Charges			
Grand Total	$405,616	$1,098,533	$2,288,149

Explanation of Budget Framework

- ***Personnel – N/A***
- ***Fringe Benefits – N/A***
- ***Travel – N/A***

- ***Equipment – N/A***
- ***Supplies – N/A***
- ***Contractual – N/A***
- ***Other - List each item in sufficient detail for EPA to determine the reasonableness and allowability of its cost.*** *This category should include only those types of direct costs that do not fit in any of the other budget categories. Examples of costs that may be in this category are: insurance, rental/lease of equipment or supplies, equipment service or maintenance contracts, printing or photocopying, rebates, and subaward costs. Subawards (e.g., subgrants) are a distinct type of cost under this category. The term "subaward" means an award of financial assistance (money or property) by any legal agreement made by the recipient to an eligible subrecipient. This term does not include procurement purchases, technical assistance in the form of services instead of money, or other assistance in the form of revenue sharing, loans, loan guarantees, interest subsidies, insurance, or direct appropriations. Subcontracts are not subawards and belong in the contractual category. Applicants must provide the aggregate amount they propose to issue as subaward work and a description of the types of activities to be supported.*

The amount of the proposed subaward to the Madison Local School District is based on a vendor quote of $85,136 for a new school bus submitted with the district's application to Ohio EPA's Diesel Emission Reduction Grant program in October, 2016. The 25% federal share would be $21,284, and the 75% local share would be $63,852.

The amount of the proposed subaward to the Great Lakes Towing Company is based on an engine component and installation cost estimate provided by the company in April, 2017 (attached) for a new twin engine tugboat, based on vendor quotes:

MTU Series 4000 marine propulsion engines (2)	$ 515,612.40
Electronic Transmissions	$ 170,863.20
Electronic Controls System & Panel	$ 45,826.80
John Deere 65kw marine generator set	$ 29,688.00
FlexaGen System, including generator, drive and panel	$ 94,800.00
Total Propulsion System Cost per Tug:	$ 856,790.40
Total Propulsion System Installation Labor Cost per Tug:	$ 70,000.00
Total Engine and Installation Cost per Tug:	$ 926,790.40
times four Tugs:	$3,707,161.16

40% share $1,482,864.64 ($384,332 DERA + 1,098,533 VW)

- ***Indirect Charges – N/A***

Explanation of Budget Framework

100% of federal funds will be passed through to subrecipients to reimburse up to 25% of the cost of the purchase of approved replacement school buses and 40% of engine component and installation costs of approved replacement tug. Ohio EPA proposes to provide a voluntary match greater than 1:1 using VW Mitigation Trust Fund dollars by writing the DERA Option in our state mitigation plan. Local subrecipient school districts will pay the remaining 75% cost of replacement school buses. The local subrecipient towing company will pay the remaining 60% cost of the new tug boat engine components and installation, or be asked to consider a different funding formula if US EPA determines it to be more appropriate for this project.

Matching Funds and Cost-Share Funds

States and territories must provide a detailed description of the source of funding for any voluntary match or mandatory cost-share funds included in the project budget, if applicable. Include details on when the match will be available for use. If applicable, include letters of financial support, which specifically indicate how supporting organizations will assist in the project.

See Sections V.B and X of the Program Guide for more information on the voluntary matching incentive and mandatory cost-share funds.

Ohio expects to receive $71,419,316.56 over ten years from the Volkswagen Mitigation Trust Fund settlement involving 2.0 liter vehicles, and an additional settlement involving 3.0 litter vehicles may increase this amount to approximately $75 million. Ohio's VW planning website is http://epa.ohio.gov/oee/EnvironmentalEducation.aspx#131365122-vw-mitigation-grants. Ohio EPA will post its draft state mitigation plan on this site in the next few months. We plan to use the DERA option and allocate approximately $1.1 million for this project within the allowable allocation for ferries and tugs.

The availability of voluntary match funds will depend on the Volkswagen Mitigation Trust Fund Effective Date, expected in the spring or early summer of 2017, by the Trustee's Certification of Ohio as a Beneficiary, and by the Trustee's approval of Ohio's draft mitigation plan, expected to be submitted in the summer of 2017. We expect funds to be available beginning in the fall of 2017.